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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,694	03/19/2004	Henley Quadling	12075/37	9151

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EXAMINER

STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,694

Applicant(s)

QUADLING ET AL.

Examiner

Gordon J. Stock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/11/06;5/4/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 17-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12,21 and 22 is/are allowed.
- 6) ☒ Claim(s) 17,18 and 23-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>20060330</u> |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendments received on April 11, 2006 and May 4, 2006 have been entered into the record.

Drawings

2. The Drawings received on April 11, 2006 are accepted by the Examiner.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 17-18** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In **claim 17**, the limitation 'determining a map' is an abstraction without a tangible result. Merely 'determining a map' would not appear to be sufficient to constitute a tangible result, since the outcome of the determining step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

Claim 18 is rejected for being dependent upon a rejected base claim. In addition, the further limiting of the parent **claim 17** with 'the second position ... to one another' does not constitute a tangible result to overcome the rejection under 35 U.S.C. 101 above.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 17-18, 23-31** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As for **claim 17**, the relaying the pattern from the first position to a second position; from the second position, projecting the pattern onto the object; at a third position receiving a reflection and relaying the reflection of the pattern from the third position to a fourth position were not adequately disclosed for the specification only discloses a multiple exposure stage without mentioning of multiple positions. And does not adequately state that the second position for receiving a pattern also projects a pattern, for the multiple exposure stages are at subsequent positions that are not adequately described as coincident, if the positions are interpreted as exposure positions during subsequent scan periods. See paragraphs 0062-0063.

In addition, since it is unclear if the positions are exposure positions or solely triangulation positions during a single scan, if the positions are triangulation positions for a single scan period, it is not adequately disclosed that a second position also is used to project a pattern if the four positions are defined as four positions through one scan period. See Figure 4: first position as interpreted as from the scanner; second position as from first optics relay; third position from second optics relay; fourth position as at the imaging sensor.

As for **claim 18**, it is rejected for being dependent upon a rejected base claim.

As for **claim 23**, 'an optical element that detects the reflection' was not adequately disclosed for the specification solely discloses a single optical element that detects a reflection,

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an image sensor. See paragraph 0057. The only other optical elements disclosed as comprising the image optics system are lens, prism, mirror, or optics relay which do not perform detection but perform transmission or relaying of light. See paragraph 0056.

As for **claim 24**, it is rejected for being dependent upon a rejected base claim.

As for **claim 25**, 'an optical element configured to detect a reflection' was not adequately disclosed for the specification solely discloses a single optical element that detects a reflection, an image sensor. See paragraph 0057. The only other optical elements disclosed as comprising the image optics system are lens, prism, mirror, or optics relay which do not perform detection but perform transmission or relaying of light. See paragraph 0056.

As for **claims 26-29**, they are rejected for being dependent upon a rejected base claim.

As for **claim 30**, 'an optical element configured to detect a reflection' was not adequately disclosed for the specification solely discloses a single optical element that detects a reflection, an image sensor. See paragraph 0057. The only other optical elements disclosed as comprising the image optics system are lens, prism, mirror, or optics relay which do not perform detection but perform transmission or relaying of light. See paragraph 0056.

As for **claim 31**, it is rejected for being dependent upon a rejected base claim.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 17-18** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for **claim 17**, the phrases 'relaying the pattern of substantially parallel curves from the first position to a second position with respect to the object; from the second position, projecting the pattern onto the object' and 'relaying the reflection of the pattern from the third position to a fourth position' are indefinite, for it unclear how one receives the pattern in the second position as well as projects the pattern at the same position in either a single scan period or at least two exposure periods. And it is unclear what constitutes a fourth position in a series of exposures or in a single scanning. See rejection of **claim 17** under 35 U.S.C. first paragraph above.

As for **claim 18**, it is rejected for depending on a rejected base claim.

Allowable Subject Matter

9. **Claims 1-12, 21-22** are allowed.

Claims 23-31 would be allowable if the rejection under 35 U.S.C. first paragraph is overcome. In regards to allowable subject matter, Examiner is interpreting the limitations of **claims 23-31** regarding the 'optical component that detects the reflection' as an optical component that images the reflection pattern.

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an intra-oral laser digitizer system the particular scanner and an image optics system, in combination with the rest of the limitations of **claims 1-12, 21-24**

As to **claim 25**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an intra-oral laser digitizer the particular scanner and particular second optics relay, in combination with the rest of the limitations of **claims 25-29**.

As to **claim 30**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an intra-oral laser digitizer the particular scanner and particular second optics relay, in combination with the rest of the limitations of **claims 30-31**.

Response to Arguments

10. Applicant's arguments, see Remarks, filed April 11, 2006, with respect to **claims 1-12** have been fully considered and are persuasive. The previous rejection of **claims 1-12** has been withdrawn. As for the rest of the arguments, they are moot in view of the new grounds of rejection. The Examiner has included the Interview Summary of 20060330 along with this action; the Examiner acknowledges the Remarks of April 11, 2006 include the substance of the interview of March 30, 2006. Examiner also would like to state that, even though no prior art was used in rejecting **claims 17-18**, no indication of allowable subject matter was made due to the indefinite nature of the claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- U.S. Patent 5,168,386 to Galbraith
- U.S. Patent 5,280,542 to Ozeki et al.
- U.S. Patent 5,604,817 to Massen et al.
- U.S. Patent 5,832,107 to Choate

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

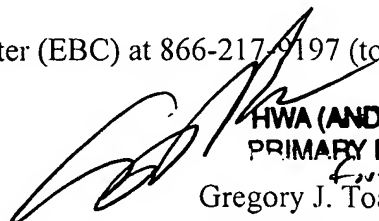
The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gs

July 21, 2006


HWA (ANDREW) LEE
PRIMARY EXAMINER

Gregory J. Toatley, Jr.
Supervisory Patent Examiner
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